

ABSTRACT

A method and apparatus for detecting soot and/or water concentrations in diesel engine oil having a dielectric constant may include a device for measuring a change in the dielectric constant at a first frequency, a device for measuring a change in the dielectric constant at a second frequency and a processor configured to calculate at least one of a percentage of soot content and a percentage of water content as a function of the measured changes in the dielectric constant at the first and second frequencies. The first frequency may be within approximately the ultrasonic and sub-AM frequency bands and the second frequency may be within approximately the microwave frequency band.